

ABSTRACT

An optical communication network in which interoperable optical frequency channels are defined without an absolute frequency reference. In accordance with a first embodiment, non-absolute frequency references identical in frequency are
5 provided to the nodes on the network. At each node, one of the channels of a tunable multi-channel device located at the node is frequency aligned with the non-absolute frequency reference. Once the tunable multi-channel devices have been frequency aligned with the non-absolute frequency reference, respective transceivers located at the respective nodes are frequency aligned to different ones of the channels of the
10 tunable multi-channel device so that they can transmit and receive optical information signals at frequencies defined by the tunable multi-channel device.